Land Degradation Index using Salinity Index by GIS-MCDM Method in Al-Hashimiya Irrigation Project in Babil Province, Iraq

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Abstract: Al-Hashimiyah irrigation project was chosen within the Iraqi sedimentary plain in Babil province, south of Baghdad city with an estimated area of 42284 ha , because of its geomorphological and physiographical diversity, as well as the lands are affected by various manifestations of degradation. Soil data of salinity was used. TOPSIS method was tested, to make a decision and multi-standard integration with geographic information systems (GIS-MCDM) was used in the calculation of the land degradation index using the salinity index. The results showed that the guide to land degradation according to TOPSIS method was efficient and appropriate and ranged between 0-1, The calculations indicated a significant correlation with the salinity index. The GIS-MCDM method has demonstrated the effectiveness, flexibility and efficiency in the calculations of land degradation index using salinity factor.

Keywords: GIS-MCDM, Al-Hashimiya, Land degradation, Salinity factor